

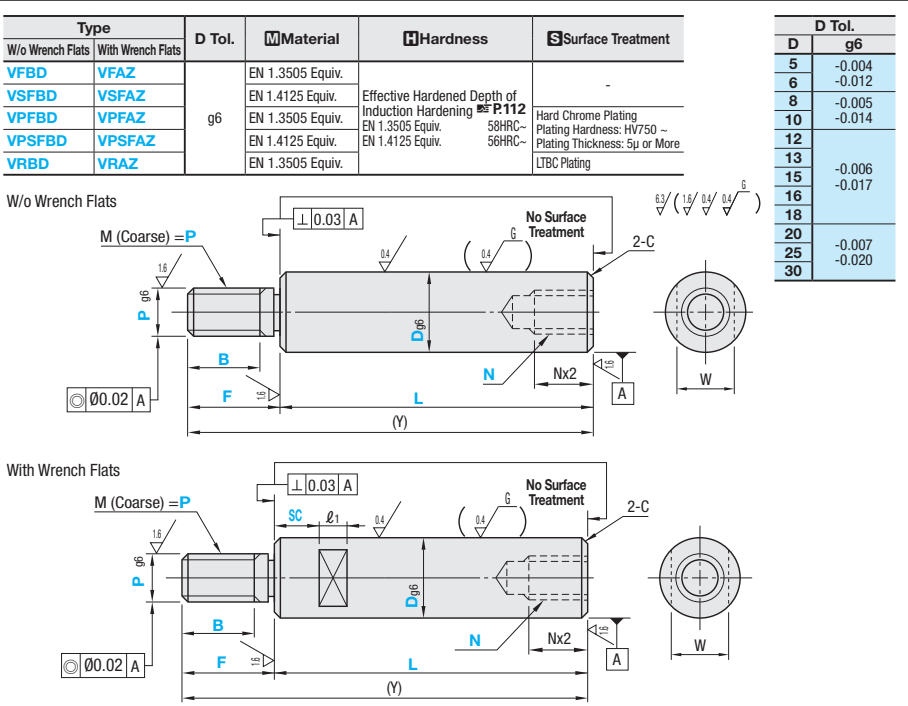
High Precision Linear Shafts

One End Threaded One End Tapped / One End Threaded One End Tapped with Wrench Flats

■ Suitable for assemblies of parts requiring high precision and high perpendicular precision of the shaft end ($\perp 0.03$).



- ⚠ Annealing may lower hardness at shaft end machined areas (effective thread length + approx. 10mm). **P.112**
- ⚠ L Dimension Tolerance, Circularity, Straightness, Perpendicularity, Concentricity and Changes in Hardness **P.111**
- ⚠ Features of LTBC Plating **P.128**



Part Number		1mm Increment				P (Coarse) Selection		N (Coarse) Selection		Wrench Flats Dimensions		(Y) Max.		C		Coarse Thread Dimension	
Type	D	L	F	B						SC	W	ℓ ₁				M	Pitch
(W/o Wrench Flats) (D5~30)	5	25~296				3		2.6 3		-	-	-	300	0.2 or Less		3	0.5
	6	25~296				3 4		3			5		300			4	0.7
	8	25~296				3 4 5 6		3 4 5			7	8	300			5	0.8
	10	25~345				4 5 6 8		3 4 5 6			8		350			6	1.0
	12	25~345				5 6 8 10		4 5 6 8			10		350			8	1.25
	13	25~345				5 6 8 10		4 5 6 8			11		350			10	1.5
	15	25~345				5 6 8 10 12		4 5 6 8 10			13		350			12	1.75
	16	25~345				5 6 8 10 12		4 5 6 8 10			14	10	350			16	2.0
	18	25~345				5 6 8 10 12 16		4 5 6 8 10 12			16		350			20	2.5
	20	25~445				6 8 10 12 16		4 5 6 8 10 12			17		450			22	3.0
	25	25~445				8 10 12 16 20		4 5 6 8 10 12 16			22		450			24	
	30	25~445				8 10 12 16 20 24		6 8 10 12 16 20			27	15	450				
(With Wrench Flats) (D6~30)	5	25~296				3		2.6 3									
	6	25~296				3 4		3			5		300				
	8	25~296				3 4 5 6		3 4 5			7	8	300				
	10	25~345				4 5 6 8		3 4 5 6			8		350				
	12	25~345				5 6 8 10		4 5 6 8			10		350				
	13	25~345				5 6 8 10		4 5 6 8			11		350				
	15	25~345				5 6 8 10 12		4 5 6 8 10			13		350				
	16	25~345				5 6 8 10 12		4 5 6 8 10			14	10	350				
	18	25~345				5 6 8 10 12 16		4 5 6 8 10 12			16		350				
	20	25~445				6 8 10 12 16		4 5 6 8 10 12			17		450				
	25	25~445				8 10 12 16 20		4 5 6 8 10 12 16			22		450				
	30	25~445				8 10 12 16 20 24		6 8 10 12 16 20			27	15	450				

- ⚠ Overall length L requires Nx3≤L.
- ⚠ When D=P, specify F=B as B dimensions. However, L and F dimensions have manufacturing priority and B dimension of the product will be F -(Pitchx2).
- ⚠ Shaft ends may have centering holes.

Ordering Example

Part Number - L - F - B - P - N - SC

VFAZ16 - 200 - F20 - B12 - P10 - N8 - SC10

VFBD12 - 277 - F20 - B12 - P8 - N5

Alterations

Part Number - L - F - B - P (PMC, PMS) - N (NSC, ND) - SC - (LKC-etc.)

VFAZ16 - 200 - F20 - B12 - P10 - N8 - SC10 - LKC

Alterations	Code	Spec.
	LKC	Alteration to L dimension tolerance Ordering Code LKC ⚠ Not applicable when D-P≤2. L dimensions can be specified in 0.1mm increment for LKC. ⚠ L≤200 → L±0.03
	SX	Second Set of Wrench Flats Ordering Code SX15 Application Notes Applicable to Shafts with Wrench Flats only. Applicable to D=6 or more. SX=1mm Increment ⚠ SC+SX+ℓ ₁ ×2<L ⚠ SX≥0 ⚠ Only applicable to Shafts with Wrench Flats. ⚠ Orientation between two set screw flats is not coplanar.
	FC	Set Screw Flat at One Location Ordering Code FC10-E8 FC, E=1mm Increment ⚠ FC≤3xD ⚠ When 1.5xD<FC, FC≤L/2 ⚠ E=0 or E≥2 ⚠ Not available in combination with WFC.

Alterations	Code	Spec.
	WFC	Set Screw Flats at Two Locations Ordering Code WFC8-A8-E4 WFC, A, E=1mm Increment ⚠ WFC≤3xD ⚠ When 1.5xD<WFC, 2WFC≤L/2 ⚠ A(E)=0 or A(E)≥2 ⚠ Orientation between set screw flats is not coplanar. Not available in combination with FC.
	PMC PMS	Change to Fine Thread Ordering Code PMC14 (P is changed to PMC) PMS14 (P is changed to PMS)
	NSC	Change to Fine Thread Ordering Code NSC14 (N is changed to NSC) Application Notes Applicable to D=12 or more
	ND	Change the effective length of tapped part to Nx3. Ordering Code ND6 (N is changed to ND) Application Notes Only applicable to D=10~30, N=6~20 ⚠ One End Tapped: NDx3.5+4≥L

- ⚠ Please see Shaft Alteration Overview for details if provided. **P.113**
- ⚠ When selecting multiple alteration additions, the distance between machined areas should be greater than 2mm.
- ⚠ Alterations may lower hardness. See **P.112**

Part Number		Unit Price				
Type	D	Min. L 50	L51 100	L101 200	L201 300	L301 445
VFBD	5					-
	6					-
	8					-
	10					-
	12					-
	13					-
	15					-
	16					-
	18					-
	20					-
	25					-
	30					-
VSFBD	5					-
	6					-
	8					-
	10					-
	12					-
	13					-
	15					-
	16					-
	18					-
	20					-
	25					-
	30					-
VPFBD	5					-
	6					-
	8					-
	10					-
	12					-
	13					-
	15					-
	16					-
	18					-
	20					-
	25					-
	30					-
VPSFBD	5					-
	6					-
	8					-
	10					-
	12					-
	13					-
	15					-
	16					-
	18					-
	20					-
	25					-
	30					-
VRBD	5					-
	6					-
	8					-
	10					-
	12					-
	13					-
	15					-
	16					-
	18					-
	20					-
	25					-
	30					-

Part Number		Unit Price				
Type	D	Min. L 50	L51 100	L101 200	L201 300	L301 445
VFAZ	6					-
	8					-
	10					-
	12					-
	13					-
	15					-
	16					-
	18					-
	20					-
	25					-
	30					-
VSFAZ	6					-
	8					-
	10					-
	12					-
	13					-
	15					-
	16					-
	18					-
	20					-
	25					-
	30					-
VPFAZ	6					-
	8					-
	10					-
	12					-
	13					-
	15					-
	16					-
	18					-
	20					-
	25					-
	30					-
VPSFAZ	6					-
	8					-
	10					-
	12					-
	13					-
	15					-
	16					-
	18					-
	20					-
	25					-
	30					-
VRAZ	6					-
	8					-
	10					-
	12					-
	13					-
	15					-
	16					-
	18					-
	20					-
	25					-
	30					-

